

## ARTICLE 33

### STORMWATER MANAGEMENT

#### **33-1 INTENT**

This article shall be known and cited as the "Stormwater Management Article of Warrenton, Virginia."

The purpose of these regulations is to establish procedures for the control of stormwater runoff associated with the development of land within the corporate limits of the Town of Warrenton, Virginia, and to achieve the objectives listed below:

- A. To assist in the orderly development of land through reasonable standards of design and procedures for stormwater management.
- B. To protect and provide for the public health, safety and general welfare.
- C. To guide future growth and development in accordance with the policies of the comprehensive plan, applicable zoning regulations and other adopted policy documents of the Town.
- D. To provide for the orderly extension of stormwater facilities in a safe, adequate and efficient manner.
- E. To coordinate proposed land development projects with existing public facilities in a manner that minimizes adverse effects on neighboring properties.
- F. To reduce and/or prevent water pollution and flooding, and to protect the natural resources in the Town, thus enhancing the beauty of the community and the value of land.
- G. To promote the economic, social and environmental stability of the community and to protect the character of the Town of Warrenton through the encouragement of beneficial and balanced urban development patterns.
- H. To inhibit deterioration of existing waters and waterways by requiring Stormwater Management Plans that will restrict postdevelopment runoff levels, as nearly as practicable, to be equal to or less than predevelopment runoff levels.
- I. To establish procedures to administer drainage and stormwater planning.

J. To establish long-term responsibility for the maintenance of stormwater management facilities.

K. To develop Design Standards to govern drainage and stormwater management installations in the Town of Warrenton.

### **33-2 Definitions**

Special terms used in this Article are defined as follows:

Adequate Channel - For manmade channels, the ten-year frequency storm is used to verify that stormwater will not overtop the channel banks and the two-year storm is used to demonstrate that stormwater will not cause erosion to the channel bed or banks (definition from the Erosion and Sediment Control Regulations). For natural channels capable of conveying the runoff from a two-year storm without overtopping its banks or eroding the channel lining, or without causing flooding of structures from the 100-year storm event.

Applicant/Developer - Any person, his Agent, or his assigns submitting a stormwater management plan for approval.

BMP Handbook - Best Management Practices Handbook

Channel - An elongated depression having a definite bed and bank which serves to confine the flow of water.

Conduit - A general term for any open or enclosed facility intended for the conveyance of water.

Control Section - A section or a reach of a conduit where conditions exist that make the water level stable. A control section may be partial or complete. A complete control section is independent of downstream conditions and is effective at all stages. An overflow dam or rock ledge crossing a channel are examples. Control sections may be either natural or artificial.

Culvert - A closed conduit carrying water under a highway, railroad, or other embankment. A culvert is distinguished from a bridge by generally having the same material all around its perimeter, and having a regular, symmetrical shape.

Debris - Any material, including floating trash or suspended sediment moved by a flowing stream.

Detention - The practice of containing standing water for a brief time after a surface water runoff event for the purpose of reducing peak runoff rates and/or for removing

pollutants. Detention may be achieved in facilities that are normally dry (detention ponds).

Development - A tract of land developed or to be developed as a unit under single ownership or unified control which is to be used for any business or industrial purpose or is to contain two or more residential dwelling units.

Discharge - (a) The quantity of water, silt, or other mobile substances passing along a conduit per unit of time: rate of flow expressed as cubic feet per second, liters per second, million of gallons per day, etc. (b) The act involved in water or other liquid passing through an opening or along a conduit or channel. (c) The water or other liquid which emerges from an opening or passes along a conduit or channel.

Ditch - An artificial channel.

Flood Routing - Determining the changes in the rise and fall of floodwater as it proceeds downstream along a drainageway, including the effects of structures.

Frequency of Storm - The anticipated period in years that will elapse, based on average probability of storms in the design region, before a storm of a given intensity and/or total volume will recur. A 10-year storm can be expected to occur on the average of once every 10 years.

Impervious - Condition of a material that prevents significant percolation.

Infiltration Facility - A stormwater management facility which temporarily impounds runoff and discharges it via infiltration through the surrounding soil. While an infiltration facility may also be equipped with an outlet structure to discharge impounded runoff, such discharge is normally reserved for overflow and other emergency conditions. Since an infiltration facility impounds runoff only temporarily, it is normally dry during non-rainfall periods.

Land Development or Land Development Project - A manmade change to the land surface that potentially changes its runoff characteristics.

On site Stormwater Management Facilities - Facilities which are designed to control stormwater runoff emanating from a specific site.

Peak Discharge - The maximum instantaneous flow from a given storm condition at a specific location.

Postdevelopment - Runoff conditions that may reasonably be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land.

Predevelopment - Runoff conditions that exist at the time that plans for a land development activity are approved by the plan approval authority. For staged

development, the first item approved or permitted shall establish the time at which predevelopment conditions are fixed. In the case of land development by governmental agencies, the initiation of land acquisition shall establish the time at which predevelopment conditions are fixed.

Regional (Watershed Wide) Stormwater Management Facility or Regional Facility - A facility or series of facilities designed to control stormwater runoff from a large contributing area, although only portions of the watershed may experience land development.

Storm Sewer - A sewer that carries only stormwater, drainage and other surface water, but not domestic sewage or industrial wastes. A storm sewer system consists of underground conduits, inlets, manholes, open channels, swales and special appurtenances.

Stormwater Detention Basin or (Detention Basin) - A stormwater management facility which temporarily impounds runoff and discharges it through a hydraulic outlet structure to a downstream conveyance system. While a certain amount of outflow may also occur via infiltration through the surrounding soil, such amounts are negligible when compared to the outlet structure discharge rates and are, therefore, not considered in the facility's design. Since a detention facility impounds runoff only temporarily, it is normally dry during non-rainfall periods.

Stormwater Drainage System - A system of conduits and associated structures used to collect and convey runoff.

Stormwater Management Facility - A device that controls stormwater and changes the characteristics of runoff including, but not limited to the quantity and quality, the period of release, or the velocity of flow.

Time of Concentration - The time it takes for runoff to travel from the most hydraulically distant part of the watershed to a point of reference, (i.e. basin outlet, drop inlet, etc.)

Town - The Town of Warrenton.

Watershed - The total drainage area contributing runoff to a single point.

Watercourse - Any naturally occurring, constant or intermittent, surface water and its associated banks, bed, and floodplains.

### **33-3 Applicability**

A. Except as provided for below, all land development projects shall comply with the requirements of these regulations.

B. The following activities are exempt from the requirements of these regulations.

1. Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under the provisions of Title 45.1 of the Code of Virginia.

2. Tilling, planting or harvesting of agricultural, horticultural, or forest crops.

3. Single-family residences separately built and not part of a subdivision, including additions or modifications to existing single-family detached residential structures.

4. State agency projects as defined in the Virginia Stormwater Management Regulations, VR 215-02-00.

5. Land development activities for which preliminary and/or final site plans have been approved by the Town and for which construction will be completed within twenty-four (24) months.

6. Land development projects that disturb less than one acre of land area. However, development of less than one acre of land area for which construction will be completed within twenty-four (24) months.

projects disturbing less than one acre but more than 10,000 square feet must comply with the Town of Warrenton's Zoning Ordinance, Article 5 - Erosion and Sediment Control.

### **33-4 Authority**

These regulations are based on authority provided in the Code of Virginia Supplement 15.1 -466, Subsection A, No. 10.

### **33-5 ADMINISTRATION**

#### **33-5.1 Town Council**

The Town Council shall retain the right to review, approve and disapprove the stormwater management plans for the development of land within the corporate limits of the Town of Warrenton, except as otherwise provided in these regulations, pursuant to the powers and jurisdiction granted by general law.

Agent - The Director of Public Works, or his representatives, designated in writing and filed in the office of the Clerk of Council, are appointed to be the Town Council's Agent, to administer these regulations. In so acting, the Agent shall be considered the Agent of the governing body; and the Agent's approval, disapproval or other action shall be that of the governing body.

#### **33-5.2 Consultation**

The Agent may call for opinions or decisions, either oral or written, from other departments or agencies in considering details of any submitted plan.

#### **33-5.3 Additional Authority**

The Agent may establish any reasonable administrative procedures deemed necessary for the proper administration of these regulations.

#### **33-5.4 Exceptions**

- A. Any request for an exception to the requirements of these stormwater management regulations shall be submitted, in writing, to the Agent. An exception from these regulations may be granted, provided that: (i) exceptions to the criteria are the

minimum necessary to afford relief, and (ii) reasonable and appropriate conditions shall be imposed as necessary upon any exception granted so that the purpose and intent of these regulations are preserved.

- B. Economic hardship is not sufficient reason to grant an exception from the requirements of these regulations.
- C. The Agent, as appropriate, shall grant each exception in writing. Each exception shall be preserved and recorded by the Agent. The application and the basis for the exception or denial of the exception shall be recorded. These records shall be kept by the Town clerk at least ten (10) years from the date of the granting or denial of the exception.
- D. When possible, the applicant/developer should submit a request for an exception with the preliminary plan submission. All exception requests shall be accompanied by such plans, drawings, and engineering documents required by the Agent to understand and act on the exception. Exception request shall be accompanied by the appropriate fee in accordance with Section 33-7.2 of these regulations. At least ten (10) days prior to the consideration of a variance, the applicant/developer shall give written notice by regular mail or by delivery to landowners adjoining the proposed land development activity in the exception request.

Any person aggrieved by the Agent's decision on a variance may appeal the Agent's action to the Town Council by written application filed with the Town clerk within thirty (30) days from the date of the decision. After at least ten (10) days' written notice to the adjoining landowners and to the applicant for the variance, the Town Council shall act by resolution to approve or deny the variance within thirty (30) days from the receipt of the application for appeal. The decision of the Town Council in any case shall be final.

- E. During the pendency of an exception, the plan review process for the subject plat shall be held in abeyance.

### **33-6 ENFORCEMENT**

#### **33-6.1 Enforcement Measures**

- A. No person shall subdivide, build, construct, or otherwise develop any tract of land that is located within the jurisdiction of the Town except in conformity with the provisions of these regulations and any other applicable Town ordinance.
- B. No person shall be issued a land disturbing permit without making and recording a stormwater management plan for such development and without fully complying with the provisions of these regulations and of general law.

- C. The Agent and Town attorney may take other legal action as may be necessary to enforce the provisions of these regulations, including suit for injunction, for abatement or restraining order or other appropriate proceeding.

### **33-6.2 Security for Construction of Stormwater Management Facilities**

Bonds, cash escrow, letters of credit or other mechanisms for guaranteeing the construction of stormwater management facilities shall be supplied in accordance with Section 15.1-466 (5) and Code of Virginia. Such bonds, cash escrow, letters of credit, etc., or the unexpended, or unobligated portion, thereof, shall be refunded to the developer or terminated within one year of completion of the requirements of the approved stormwater management plan.

## **33-7 APPROVAL OF STORM WATER MANAGEMENT PLANS**

### **33-7.1 General Procedures**

- A. Whenever any development of land is proposed, the applicant/developer shall apply in writing to the Agent for approval of the stormwater management plan.

As a minimum, a stormwater management plan shall contain the following:

1. The location and the design of the proposed stormwater management facilities.
2. Overall site plan.
3. Comprehensive hydrologic and hydraulic computations for the predevelopment  
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postdevelopment two-year and 10-year storm events, considered individually.
4. Calculations verifying compliance with the water quality requirements.
5. A description of the requirements for maintenance of the stormwater management  
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a recommended schedule of inspection and maintenance.

6. The identification of a person or persons who will be responsible for maintenance.
7. Certification of maps, plans and designs by a professional engineer or Class III B

licensed to practice in the Commonwealth of Virginia.

- B. The Agent shall review the submittal to determine if the application is complete. If the application is accepted the Agent shall inform the applicant/developer in writing within thirty (30) days of submittal. If the application is rejected, the Agent shall inform the applicant/developer in writing within thirty (30) days of the additional items necessary to make the application complete.
- C. Once the application is accepted, the Agent shall have sixty (60) days from the date of the acceptance letter, to review the stormwater management plan to determine if it meets the requirements of these regulations. The Agent shall advise the applicant/developer in writing of the plans approval, disapproval or approval with conditions.

In the case of disapproval, the Agent shall give the applicant/developer specific reasons for denial. These may be contained on a separate document or may be written on the plans. They shall relate, in general terms, such modifications or corrections which will be necessary to secure approval of the plan.

- D. The final plan shall not be approved until the applicant/developer has complied with the requirements of these regulations and has provided the appropriate security in accordance with Section 33-6.2 of these regulations. The applicant/developer shall

provide on a designated approval signature block on each plan sheet where the Agent shall indicate by signature on the plan, approval of the final plan.

- E. If these requirements of these regulations are met, the Agent shall approve the final plan.
- F. After final plan approval by the Agent, no change, erasure or revision shall be made on any preliminary or final plan or accompanying data sheets unless authorized in writing by the Agent.

### **33-7.2 Fees**

The fees shall be reviewed annually and approved by the Town Council.

### **33-7.3 Conditions of Approval**

Each plan approved by the Town shall be subject to the following conditions:

1. The applicant shall comply with all applicable requirements of the approved plan and these regulations, and shall certify that all land clearing, construction, land development and drainage will be done according to the approved plan.
2. The land development project shall be conducted only within the area specified in the approved plan.
3. The locality shall be allowed, after giving notice to the owner, occupier or operator of the land development project, to conduct periodic inspections of the project.
4. The person responsible for implementing the approved plan shall conduct monitoring and submit reports as the locality may require to ensure compliance with the approved plan and to determine whether the plan provides effective stormwater management.
5. No transfer, assignment or sale of the rights granted by virtue of an approved plan shall be made unless a written notice of transfer is filed with the locality and the transferee certifies agreement to comply with all obligations and conditions of the approved plan.

### **33-8 REFERENCES**

#### **A. General Provisions**

The construction materials and methods used for this Section shall conform to the current Virginia Department of Transportation Road and Bridge Specifications and the Town of Warrenton Public Facilities Manual.

## **B. Conflicting Provisions Policy**

Whenever any provisions of any State or Federal statute or other provisions of other Town of Warrenton Ordinances or regulations impose a greater requirement, or a higher standard, than is required by these regulations, the provisions of the State or Federal statute or other Town Ordinance, or regulation, shall govern.

C. Due to the complexity of storm drainage, issues, designers are encouraged to pursue innovative solutions. However, such design shall be accompanied by documentation as to the appropriateness of the design and its maintenance requirements.

## **33-9 STORMWATER MANAGEMENT**

### **33-9.1 General Requirements**

A. Under the requirements of 33-11.2 are met a stormwater management plan shall be provided with each land development plan. The stormwater management plan shall provide for the management of stormwater quantity and quality in:

1. on site stormwater management facilities, or
2. regional stormwater management facilities.

Additionally, the stormwater management plan shall meet the requirements of the Town's Zoning Ordinance Article 5 - Erosion and Sediment Control.

B. When a applicant/developer desires to use regional stormwater management facilities rather than constructing on site facilities, he shall enter into an agreement with the Town of Warrenton to use the off site stormwater management facilities,

C. With prior approval, the applicant/developer may grant easements or dedicate land for a regional stormwater management facility in lieu of constructing the required on site stormwater management facility, provided said regional stormwater management facility is constructed prior to the completion of construction on the proposed land development project.

## **33-10 POLICY OF ADEQUATE DRAINAGE**

A. In order to protect and conserve the land and water resources of this Town for the use and benefit of the public, measures for the adequate drainage of surface waters shall be taken and facilities provided in connection with all land development activities.

B. Adequate drainage of surface water means the effective conveyance of storm and other surface waters through and from the on site stormwater management facilities into a(n):

1. natural watercourse, i.e., a stream with incised channel (bed and banks),
2. drainage facility of sufficient capacity without adverse impact upon the land over which surface waters are conveyed or upon the watercourse or facility into which such waters are discharged, or
3. adequate channel as defined in Section 400.02 of these regulations.

### **33-10.1 Minimum Requirements**

A. The drainage system must have the hydraulic characteristics to accommodate the maximum expected flow of surface waters for a given watershed, or portion thereof, for the duration and intensity of rainfall, as specified in these regulations.

B. Determination of the size and capacity of the drainage system shall be based on the planned development, existing zoning or existing development, whichever is greater, within the watershed.

C. The drainage system shall be designed:

1. To honor natural drainage divides,
2. To account for both off site and on site surface waters,
3. To convey such waters to a natural watercourse, i.e., a natural watercourse at the natural elevation, or an existing or proposed stormwater management facility, and
4. To discharge the surface waters into a natural watercourse at the natural elevation, or into an existing facility of adequate capacity.

D. The drainage system shall be designed such that properties over which the surface waters are conveyed, from the development site to discharge point(s), are not subject to increased erosion or increased flooding.

E. Concentrated surface waters shall not be discharged on adjoining property, unless an easement expressly authorizing such discharge has been granted by the owner of the affected land or unless the discharge is into a natural watercourse, or other appropriate discharge point as set forth above.

F. The owner or applicant/developer may continue to discharge storm water which has not been concentrated into a lower lying property if the following three conditions are met:

1. The peak runoff rate after development does not exceed the predevelopment peak runoff rate.
2. The increase in runoff volume caused by the development will not have an adverse impact, such as erosion or flooding, on the lower lying property.

G. If the discharge conditions are not met and the discharge may aggravate an existing drainage problem or cause a drainage problem, the applicant/developer must provide a drainage system satisfactory to the Director to preclude an adverse impact upon the adjacent or downstream property.

H. Drainage structures shall be constructed in such a manner that they may be maintained at a reasonable cost. To facilitate design, construction, and maintenance, drainage facilities shall meet and conform, insofar as practical, Virginia Department of Transportation standards.

I. If the outfall is into a natural and well defined, stabilized watercourse, the two-year peak flow from the development of the watershed must be at a flow rate and velocity which the watercourse can accept without causing erosion in the streambed or over-bank flooding. Alternatively, if the applicant/developer chooses, the downstream watercourse may be modified so that it can handle the two-year postdevelopment flow, provided, however, that if the applicant/developer choose to install a storm drainage system, the system shall be designed in accordance with these regulations for such systems.

J. If off site downstream construction and easements are necessary to obtain an adequate drainage outfall, no plans shall receive final approval until such storm drainage easements, extending to the nearest natural and well defined, adequate, stabilized watercourse, or adequate man-made drainage channel or pipe, have obtained and recorded among the land records of Fauquier County, Virginia.

K. Storm sewers shall be discharged into the area least likely to erode. The following should be considered:

1. Generally, it is preferred to discharge at the flood plain limit into an adequate watercourse channel leading to the main stream-bed, rather than disturb the flood plain by extending the storm sewer.

2. If an adequate watercourse channel does not exist, the only alternative is to discharge into the main stream-bed.
3. In either case, energy dissipation devices are required.

L. The requirements of Town of Warrenton relating to Erosion and Sedimentation Control, and the further requirements for protection of stream-beds by detention of surface waters, set forth in these regulations must be satisfied. Additionally, the Stormwater Management Regulations requirements to protect water quality must be met, if applicable.

M. All drainageways, including overland relief pathways, must be separated from buildings. No building or other permanent structure may be built on or in a stormdrainage system, or easement.

N. Consideration must be given in the preparation of the plans to preclude adverse impacts resulting from higher rates and volumes of flow that might occur during construction.

O. In cases where the drainage plans of a proposed development do not satisfy these minimum requirements because necessary off site facilities or improvements are lacking, the applicant/developer shall delay development until the necessary off site facilities or improvements are constructed or other arrangements are made which are suitable to the Director of Public Works. In such event, the plat or plans, if otherwise satisfactory, will be approved when the requirements of this Article are satisfied. Alternatively, the applicant/developer may choose to supply the off site facilities that are necessary for adequate drainage.

P. The downstream extent of this review shall be to the point at which the total drainage area is at least 100 times greater than the area of the development site in question.

### **33-11 POLICY ON DETENTION OF STORMWATERS**

#### **33-11.1 General Policy for Detention Facilities**

A. It is the intent of this policy to encourage the use of various methods for the on site detention of stormwaters in the interest of minimizing the adverse effects of increased stormwater runoff (resulting from development of land within the Town) on all downstream drainageways.

B. It also is the intent of this policy to encourage a regional approach in the implementation of stormwater detention, rather than numerous small, marginally effective individual on site ponds. Some regional stormwater detention methods are discussed in this Section and in more detail in the BMP Handbook, but new approaches to accomplish this objective are encouraged.

C. Detention facilities must be provided in all storm drainage plans proposed for development in the Town of Warrenton submitted for review and approval unless:

1. The storm drainage is released to an adequate channel. See Section 33-2 for definition of an adequate channel.
2. The storm drainage is routed to a regional facility for which the owner has contributed a pro-rata share of the cost of providing that regional facility, according to Section 33-14 of these regulations, or
3. The detention of stormwater may cause increased peak flows down stream due to attenuated predevelopment peak flows.
4. There is a prorata participation provided for another Town regional facility, channelization project, or improvement to one of the problem areas identified in the Corrective Measures for Existing and Project Problem Areas - Town of Warrenton Master Drainage Plan, a copy of which may be obtained at the Town office.

### **33-11.2      Detention Measures**

A. Except where otherwise prohibited, detention, either alone or in combination with other measures, is an acceptable option for meeting the Town and State requirement for protecting receiving waterways from erosion and flooding resulting from (developed) runoff.

B. On site detention of stormwater is desirable in many cases to alleviate existing downstream drainage problems and to preclude the development of new ones.

1. Detention is mandatory where the existing downstream drainage system is clearly inadequate and its expansion or improvement is either financially prohibitive or unacceptable for aesthetic or other compelling reasons.
2. In some areas of a watershed, detention may cause increased peak flows to occur on the major streams and tributaries. Therefore, the downstream impact must be carefully investigated.

C. The Town reserves the right to prohibit detention of stormwater where and when it is not in the best interests of the Town, and to require instead participation in regional facilities and/or infrastructure construction or improvement of drainage facilities.

D. The release rate from ponding areas shall be less than or equal to, that of the developed site prior to the proposed development for the design storm, but adequate alternate drainage must be provided to accommodate major storm flows.

E. The roof tops of buildings may be used for detention, but care should be taken to

design the buildings to accommodate the additional live loading involved.

F. Detention ponds or basins may be combined with parks, playing fields, parking lots or storage areas to reduce peak runoffs by providing on site storage. When this combination occurs:

1. The design engineer should strive to design detention facilities which require minimal maintenance. The maintenance responsibility shall be clearly stated on the plans.
2. Provisions for adequate low flow drainage may be required for flat grades (i.e., less than 3% for grass surfaces and less than 1% for paved surfaces) or for poor draining soils.

G. Porous material may be used where practical as an alternative to conventional impervious parking area paving. This material would allow the stormwater to be absorbed more readily by the ground rather than adding runoff. This practice is not applicable to areas where a high water table exists, where subsoil conditions are not suitable, or where the area is to be maintained or dedicated to the Town.

Design engineers are encouraged to investigate and propose experimental uses of new or existing products and methods including porous asphalt pavement where such use may appear appropriate. However, the design engineer must demonstrate to the Town's satisfaction that the method is appropriate, functional, and has the ability to be satisfactorily maintained.

### **33-11.3      Location of Detention Facilities**

A. All detention facilities shall be within storm drainage easements, and shall be maintained by the Home Owner's Association or property owner. All permanent drainage easements in favor of the Town shall be recorded among the land records of Fauquier County, Virginia.

B. Although this policy is primarily concerned with maintaining postdevelopment peak runoff at the level of the predevelopment condition, it may be applied under certain conditions for the purpose of correcting an existing inadequate out-fall. When used in this fashion, such a facility also may aid in meeting the requirement for adequate drainage.

C. Wherever stormwater management facilities are planned in areas within 500 feet of a residence or active recreational area, special design attention shall be directed toward the safety aspects of the facility including such factors as mild bottom slopes along the periphery of a detention pond extending out to a point where the depth exceeds two feet, flat lateral and longitudinal slopes where concrete low flow channels are used, outlet structures with properly fastened trash racks which will inhibit unauthorized entrance, fencing and posted warning signs.



D. In addition, credit for recreational open space shall be allowed in those areas where detention facilities are located if the area can be reasonably used for recreational purposes.

### **33-12 POLICY ON STORM WATER RUNOFF QUALITY CONTROL CRITERIA**

A. Stormwater runoff quality shall meet the standards outlined in the BMP Handbook of the Northern Virginia Planning District PD-8.

### **33-13 POLICY ON OFF SITE DRAINAGE IMPROVEMENTS**

#### **33-13.1 Purpose and Intent**

In the interest of the health, safety, and welfare when the appropriate land use has been determined for any area to be developed, the Town reserves the right to require the applicant/developer to show that off site downstream drainage can be accommodated (considering the planned development of the contributing watershed) without damage to, or without exceeding the capacity of, existing facilities or properties before such development is approved for construction.

### **33-14 POLICY ON PROPORTIONATE COST OF OFF SITE DRAINAGE IMPROVEMENTS**

#### **33-14.1 General Policy**

A. Where off site storm sewer is inadequate, the applicant/developer shall contribute his/her proportionate share toward the correction of off site outfall deficiencies. In addition, the Town reserves the right to require pro-rata share contributions in areas where downstream pro-rata share improvements have been installed.

B. Where the applicant/developer chooses either to construct or to provide the funds for the construction of more than his/her proportionate share of the downstream off site drainage improvements and/or regional detention facilities, so that he/she may proceed with the improvement of his/her land without damaging the properties of others, the Town shall endeavor to collect, on a pro-rata basis, any excess funds expended beyond the applicant's/developer's proportionate share of the cost of such facilities and/or improvements from other properties within the watershed served by such drainage improvements when such properties are developed within a period of ten years from the date that the drainage improvements are financed or constructed, and to turn these funds without interest over to the initial applicant/developer.

C. Refer to the Corrective Measures for Problem Areas Report prepared by Anderson & Associates, Inc. that identify some of these areas.

### **33-14.2      General Requirements**

Development within a watershed involving a change of land use therein normally is associated with an increase in impervious areas resulting in a greater quantity as well as a more rapid and frequent concentration of stormwater runoff. The increase in runoff for the 2 year and 10 year recurrence interval storms shall be computed.

The construction of storm drainage improvements are required along natural drainways, or swales as watershed development progresses to alleviate flood damage and arrest deterioration of existing drainageways. The extent and character of such improvements shall be designed to provide for the adequate correction of deficiencies. Improvements shall extend downstream to a point where damages to existing properties ascribable to the additional runoff are minimized (see Section 33-10.1 (P) for downstream extent). The purpose and intent is to require a applicant/developer of land to pay his/her pro-rata share of the cost for providing reasonable and necessary drainage facilities located outside the property limits of the land owned or controlled by the applicant/developer, necessitated or required, at least in part, by the construction or improvement of his/her land development activity.

### **33-13.3      Pro-Rata Share Studies**

When directed by the Town Manager, the Agent shall study and compute the total estimated cost of ultimate drainage facilities required to serve a drainage-shed when and if such drainage-shed is fully developed in accordance with the adopted comprehensive plan for the watershed or the current zoning of the land, whichever is higher. The computation of estimated costs shall include any engineering study for the watershed. The total estimated cost of storm drainage construction, the engineering and surveying for the design, easements, and flood plain easement acquisition costs where necessary, shall also be included. When this cost is computed it shall be updated every six months by applying the Engineering News-Record cost index factor to the construction materials, and inflation rates to equipment and labor.

The above study with its attendant cost figures shall constitute the general improvement program for the affected watershed.

### **33-14.4      General Drainage Improvement Program**

The Town implemented in 1991-92 a General Drainage Improvement Program entitled "Corrective Measures for Existing and Projected Problem Areas - Town of Warrenton Master Drainage Plan", dated August 16, 1991 (revised January 31, 1992). Copies of this document can be obtained from the Town Office.

A pro-rata share of the total cost of the program shall be determined as follows:

- A. The estimated increase in cA, coefficient of imperviousness times area, shall be computed for the watershed when fully developed in accordance with the adopted comprehensive plan, or the current zoning of the land, whichever yields the greatest cA.
- B. The increased cA, postdevelopment versus predevelopment, caused by the land development activity shall be computed.
- C. The ratio of the increased cA caused by the proposed land development to the estimated total cA for the watershed, expressed as a percentage, shall be applied to the total cost of the drainage improvement program for the watershed. The resultant cost shall be the pro-rata share for the land development activity.

#### **33-14.5      Pro-Rata Share Payments**

- A. The payment of the pro-rata share shall be due prior to the approval of the plans for a land development activity.
- B. Payments shall be deposited in an interest bearing account with the Director of Finance of the Town of Warrenton.
- C. Payments received shall be expended only for the construction of drainage facilities for which the payment was calculated. Until funds are expended, interest shall accrue to the benefit of the depositor.
- D. When storm water detention facilities are incorporated in the drainage design for a land development activity to reduce stormwater runoff, and thereby reduce or eliminate the pro-rata share cost, an agreement must be made with the Town to ensure that construction of such facilities will be in accordance with approved plans and specifications, and that the facilities will be adequately maintained. The agreement shall be executed before the land development plan is approved unless the facility is to be maintained by the Town.
- E. The applicant/developer may, at the approval of the Town, post a personal, corporate or property bond, cash escrow or other method of performance guarantee satisfactory to it conditioned on payment at commencement of construction.

#### **33-15   POLICY ON WHAT MAY BE DONE IN FLOOD PLAINS**

Refer to Article 21 entitled FP - Flood Plain District for Development guidelines and requirements in the flood plain districts.

### **33-16 EASEMENTS**

Easements shall be required in accordance to the Town of Warrenton's Public Facility manual. All required easements in favor of the Town of Warrenton shall be recorded among the land records of Fauquier County prior to release of any security as detailed in Section 33-6.2 of this ordinance.